



Patent

Docket No.: HM-605

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Kurt Scheffe, et al.
Serial No: 10/509,858
Filed: October 1, 2004
For: DEVICE FOR INFLUENCING IN A CONTROLLED MANNER THE
LOAD PRESSURE OF PRESSURE ROLLERS
Examiner: Thomas R. Hannon
Art Unit: 3682

Mail stop Appeal Brief-Patents
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

AMENDED BRIEF ON APPEAL

SIR:

This appeal is taken from the Final Action mailed August 14,
2006.

Real Party in Interest

The real party in interest in the above-identified application is:

SMS Demag AG
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Germany

Related Appeals and Interferences

There are no related appeals or interferences of which Applicants are aware regarding the above-identified application.

Status of Claims

Claims 1-3 are pending in the application and are subject to the present appeal. Claims 1 and 2 stand rejected under 35 U.S.C. 102(b) as being anticipated by Talbot US 1,986,027. Claim 3 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Talbot.

Status of Amendments After Final Rejection

A Response after final was not filed.

Summary of the Claimed Subject Matter

The claimed invention will now be summarized with reference to the drawings being made by way of reference numerals and reference to the specification being made by page and line numbers.

The present invention is directed to a device for controlling the contact pressure of backup rolls SW resting on work rolls. As illustrated in Fig. 1 and described on page 6, lines 5 and 6, the roll neck WZ of a backup roll SW is supported by a roller bearing RL in a bearing chock LS of the rolls of a roll stand. The roll neck WZ of the backup roll SW has a neck extension ZA which is supported in an axial support bearing, as described in lines 7 and 8 on page 6 of the specification. The axial support bearing has a bearing housing LG which is connected externally to the bearing support housing of the contact rolls or to the bearing chock LS, as described in lines 11 and 12 on page 6 of the specification. The fact that the bearing housing LG is connected externally to the bearing support housing is apparent from the drawings. The

device of the present invention further includes an intermediate housing ZG which is inserted into the bearing housing LG and cylindrically encloses the axial support bearing, as described in lines 9-11 on page 6 of the specification. The fact that the intermediate housing ZG cylindrically encloses the axial support bearing is clear from the drawing and from page 4, last six lines. A piston-cylinder unit RB, SK is provided for displacing the intermediate housing, as described in lines 15 and 16 on page 6 of the specification. The piston-cylinder unit RB, SK is displaceable in the bearing housing in the radial direction relative to the axis of the neck extension ZA, as generally described in lines 16 and 17 on page 6 of the specification.

Grounds of Rejection to be Reviewed on Appeal

The following grounds are presented for review:

Whether claims 1 and 2 are anticipated under 35 U.S.C. 102(b) by Talbot US 1,986,027 and whether claim 3 is unpatentable under 35 U.S.C. 103(a) over Talbot.

Argument

The Rejection of Claims 1 and 2 under 35 U.S.C. 102 (b) :

The Examiner has held that claims 1 and 2 are anticipated by the reference to Talbot.

Appellants respectfully disagree with the position taken by the Examiner and submit that claims 1 and 2 are patentable over the reference to Talbot.

The patent to Talbot discloses a roll mounting. Applicant submits that Talbot does not disclose the presently claimed invention. Talbot and the present invention are based on different objectives. Talbot has the objective of preventing so-called hammering of the upper support rolls, while the present invention adjusts the contact plane of this roll on the working roll. Although Talbot and the present invention both provide additional external bearings on the neck of the roll and impart radial pulling forces on the bearing, Talbot does so in a manner different than the presently claimed invention. Talbot uses projections 36, 37 arranged in a window in the roll stand 2. The projections 36, 37 grasp a cylinder chuck set on a bearing 16. The

projections 36, 37 are connected with the yoke 41 by links 33, 38. The yoke 41 extends into the roll stand 1 and rests with its two ends on piston/cylinder arrangements 42, 43 arranged on brackets in the roll stand. In the presently claimed invention, on the other hand, a further housing LG is attached to an end face of the bearing chock LS of the roll neck WZ. The housing ZG encloses a radial bearing RA that is set on the neck extension ZA of the roll. A piston SK is arranged in a radial bore RB in the housing LG. The piston is connected via a bore with a pressure fluid. Via the piston SK a radial bending force can be applied to the neck extension ZA of the roll SW.

The construction of Talbot requires an extensive construction effort, namely a particular construction of the roll stand, particularly both brackets and the window that need to accept both hydraulic cylinders 43, the connectors 34 and the yoke 41. These components must be disassembled and then reassembled when the roll is changed.

As a result of the configuration of the reference to Talbot, any balancing forces which are to be applied to the rolls are subject to deflections.

The presently claimed invention can, on the other hand be used in any conventional roll stand without the need for complicated modifications of the stand and the window, since the components for imparting the bending force on the roll are mounted in the bearing elements themselves of the roll. With the presently claimed invention, contrary to the complex disassembly of Talbot, the roll can be conventionally removed from or placed into the roll stand with the bearing components on both necks.

Consequently, in accordance with the present invention as claimed, any balancing forces can be applied directly, so that the structural size of the device according to the present invention is small.

Applicant respectfully submits that Talbot does not disclose the presently claimed invention as discussed above and recited in the claims.

The Rejection of Claim 3 under 35 U.S.C. 103 (a):

Claim 3 stands or falls with claim 1 as argued above.

Conclusion

Accordingly, in view of the above considerations, it is Applicants' position that the Examiner's rejection of claims 1 and 2 under 35 U.S.C. 102(b) is in error and should be reversed.

Claims 2 and 3 stand and fall with claim 1.

The amount of \$500.00 to cover the fee for filing an appeal brief is being charged as per attached form PTO-2038. Any additional fees or charges required at this time in connection with this application should be charged to Patent and Trademark Office Deposit Account No. 11-1835.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, PO Box 1450 Alexandria, VA 22313-1450, on August 31, 2007.

By: 
Klaus P. Stoffel

Date: August 31, 2007

Claims Appendix

1. Device for controlling the contact pressure of backup rolls (SW) resting on work rolls, whose neck (WZ) is supported in roller bearings or journal bearings in a bearing support housing or the bearing chock of the rolls of a roll stand, the neck having a neck extension (ZA), which is supported in an axial support bearing, the axial support bearing having a bearing housing (LG) is connected externally to the bearing support housing of the contact rolls or to the bearing chock (LS) of the backup rolls, comprising an intermediate housing (ZG), which is inserted into the bearing housing (LG) and cylindrically encloses the axial support bearing, and a piston-cylinder unit (RB, SK) operatively arranged for adjustably displacing the intermediate housing in the bearing housing in the radial direction relative to the axis of the neck extension ZA.
2. Device according to Claim 1, wherein the piston-cylinder unit (RB, SK) consists of an internal cylindrical recess (RB), which extends radially relative to the axis in a wall of the bearing housing (LG) enclosing the intermediate housing (ZG),

and of a floating piston (SK), which can be displaced in this cylindrical recess (RB) and actuated by a hydraulic medium.

3. Device according to Claim 1, in which the neck of the backup roll is supported in a journal bearing in the bearing chock, wherein the journal bearing is designed as a hydraulic oil film bearing.

Evidence Appendix

N.A.

Related Proceedings Appendix

There are no related proceedings.